

REMARKS

Claims 1-27 are pending in this application. With this Response, claims 13-26 are withdrawn without prejudice to later prosecution. Attached hereto is a complete listing of all claims in the application, with their current status listed parenthetically.

Restriction Requirement

Applicant acknowledges with appreciation the courtesies extended by the Examiner to Applicant's representative in the telephone conversation of January 26, 2006. During this conversation the Examiner requested an election between Group I (claims 1-12 and 27), Group II (claims 13-18), and Group III (claims 19-26). Applicant's representative provisionally elected, with traverse, to prosecute the invention of Group I claims.

By this Response, Applicant affirmatively elects Group I (claims 1-12 and 27) to be examined. Accordingly, Applicant withdraws claims 13-26 without prejudice as non-elected claims.

However, Applicant expressly reserves his right under 35 U.S.C. § 121 to file one or more divisional or continuation applications directed to the non-elected subject matter during the pendency of this application, or an application claiming the benefit of this application under 35 U.S.C. § 120.

Applicant respectfully requests that the Examiner reconsider and withdraw the restriction requirement between the inventions of Groups I, II, and III. There are two criteria for a proper restriction requirement, namely: 1) the inventions must be independent or distinct; and 2) there must be a serious burden on the Examiner if

restriction is not required. Under M.P.E.P. § 808, the Examiner must examine the subject application on the merits even though it includes claims to distinct inventions, if the search and examination of the application can be made without serious burden. Applicant submits that a search of the art for references related to the subject matter of the claims of Group I may likely uncover references related to the subject matter of Groups II and III, and therefore the Examiner will not be seriously burdened.

Rejection Under 35 U.S.C. § 102(e)

Pending claims 1, 5, 7 and 27 stand rejected under 35 U.S.C. §102(e) as being anticipated by U.S. Patent 6,642,878 (“Libove”). As discussed below, Applicant respectfully traverses this rejection.

A. The Law of Anticipation and Enabling Prior Art References

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. M.P.E.P. § 2131. The identical invention must be shown in as complete detail as is contained in the claim. *Id.*

Applicant submits that claim 1 has elements that cannot be found, either expressly or inherently, in Libove. For example, claim 1 recites, in part: “receiving an electromagnetic signal; sampling the received signal; and demodulating the signal without mixing the signal with a second electromagnetic signal.” Libove has no teaching or suggestion of these elements. Applicant is somewhat perplexed at the Examiners assertion that Libove at column 2 lines 54-65 teaches or suggests these elements. Col. 2, lines 54-65 of Libove reads as follows:

“Examples of such systems include ultra-wideband (UWB) communications systems, RADAR systems, transmission imaging systems, laser diode drivers, fiber optic receivers, sampling oscilloscopes, microwave spectrum analyzers, time domain reflectometers (TDRs) and other electronic communications and instrumentation apparatus.

Referring now to FIG. 1, an embodiment of a sampler/pulser circuit of illustrated [*sic*]. In the sampler sampler/pulser circuit of FIG. 1, a single edge of an electrical control signal effects both the initiation and extinction of an aperture or pulse that is generated. This is achieved by level-activated switching elements (transistors or diodes) within the circuit.”

Absent from this teaching are the elements of “receiving an electromagnetic signal; sampling the received signal; and demodulating the signal without mixing the signal with a second electromagnetic signal.” Libove therefore does not teach or suggest elements present in independent claim 1. Independent claim 27 has similar elements that are therefore also not taught or suggested by Libove.

The Examiner supports the Section 102 rejection with the assertion that “UWB communications does not need mixing the received signal with a local signal since it does not have a carrier signal.” Applicant respectfully suggests that the Examiner is inaccurate in his characterization of UWB communications. As is known in the art of communications, heterodyne receivers use a locally generated signal to shift the frequency content of the received signal from one center frequency to another center frequency. A mixer usually accomplishes this frequency translation. The new center frequency can be an Intermediate Frequency (IF) or the signal can be mixed down to “baseband.” The presence or absence of a carrier signal in the received signal is not relevant to the process.

Applicant respectfully submits that the above response has traversed the rejection of independent claims 1 and 27. Claims 5 and 7 depend from claim 1, and accordingly it is respectfully submitted that the rejection of claims 5 and 7 has been traversed by virtue of their dependency from claim 1. Therefore, Applicant respectfully requests the Examiner to reconsider and withdraw this rejection.

Rejection Under 35 U.S.C. § 103(a)

In paragraph 10 of the Office Action, claims 2-4, 6, and 8-12 stand rejected as unpatentable under 35 U.S.C. § 103(a) over Libove in view of U.S. Patent 6,985,532 ("Batra"). Applicant respectfully traverses this rejection.

A. The Law of Obviousness

In order to establish a *prima facie* case of obviousness, three basic criteria must be met:

“First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined), must teach or suggest all of the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on the applicant’s disclosure.” M.P.E.P. § 2142.

The Examiner states that Batra teaches or suggests the claim element of “comparing an amplitude of a later signal sample to an amplitude of a previous signal sample” as recited in Applicant's independent claim 8. But Batra teaches an ultra wideband transmitter, not a receiver. In the Background section, Batra discusses a generic pulse that is “modulated using some modulation scheme, perhaps PPM, PAM or

bi-phase modulation...” (column 1, lines 42-44). However, Batra does not teach or suggest a receiver, nor does Batra teach or suggest an architecture for the receiver, nor does Batra teach or suggest "comparing an amplitude of a later signal sample to an amplitude of a previous signal sample.”

The Examiner states: "Differential PAM, a variation of PAM, compares the amplitude of a later signal sample to the amplitude of a previous sample to obtain data so that it has a better S/N ratio in a noisy communication environment." However, Differential PAM is not taught in Batra, nor is any teaching of comparing received signals found in Batra.

Therefore the rejection to independent claim 8 is traversed and Applicant respectfully requests the Examiner reconsider and withdraw this rejection. Claims 9-12 depend from claim 8, and accordingly it is respectfully submitted that the rejection of claims 9-12 has been traversed by virtue of their dependency from claim 8.

Claims 2-4 and 6 depend from claim 1, which has been distinguished from the cited art as discussed above. Accordingly it is respectfully submitted that the rejection of claims 2-4 and 6 has been traversed by virtue of their dependency from claim 1.

Conclusion

Applicant believes that this Response has addressed all items in the Office Action and now places the application in condition for allowance. Accordingly, favorable reconsideration and allowance of claims 1-12 and 27 at an early date is solicited. No fee is believed due with this response. However, the Commissioner is authorized to charge any fee required to our Deposit Account No. 50-3143, in the name of Pulse-Link, Inc. Should any issues remain unresolved, the Examiner is invited to telephone the undersigned.

Respectfully submitted,

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Date



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